REMARKS

Claims 4 and 8-20 are amended. Claims 1-20 remain in the application for consideration. In view of the following remarks, Applicant respectfully requests that the application be forwarded on to issuance.

Examiner Communication

Applicant and the Examiner conducted a teleconference on April, 3 2006. During the teleconference, Applicant and Examiner discussed the references cited by the Office and the Office's position with respect to the subject claims. Examiner agreed to re-consider Applicant's position by reviewing Applicant's substantive argument in this response. In addition, Examiner offered some valuable suggestions regarding potential claim amendments that will receive favorable treatment by the Office with respect to the §112 and §101 rejections.

§112, Second Paragraph, Rejection

Claim 4 stands rejected under 35 U.S.C. §112, Second Paragraph, as allegedly being indefinite. Specifically, the Office argues that there is insufficient antecedent basis for the limitation "the encoded region of media content".

Applicant has amended this claim appropriately. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

§ 101 Rejections

Claim 1 stands rejected under 35 U.S.C. § 101 as allegedly reciting "the mere manipulation of data or an abstract idea, or merely solving a mathematical problem without a limitation to a practical application." As such, the Office

concludes that "claim 1 merely manipulates data without ever producing a useful, concrete and tangible result." The Office then makes some general suggestions to remedy this rejection. In addition, the Office advises Applicant "to provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result."

Applicant respectfully disagrees with the Office's argument and traverses this rejection. First, Applicant submits that the claim 1 and the specification describe tangible results. In this regard, the Office is directed to the subject matter recited in claim 1 itself. Specifically, claim 1 recites a method that includes "subtracting the second quantity of residual samples …to generate a final representation…" In addition, and by way of example and not limitation, the Office is also directed to page 15 of the specification, which expressly describes rendering received multimedia content for a user.

Second, with respect to the Office's statement that "claim 1 merely manipulates data without ever producing a useful, concrete and tangible result", Applicant submits that even if the subject matter of claim 1 did merely manipulate data, which it does not (claim 1 recites "…to generate a final representation…"), this alone would not be a sufficient basis to conclude that it did not produce a useful, concrete and tangible result. (see the Federal Circuit Court's holding in In re Alappat (hereinafter "Alappat") (33 F.3d 1526)).

Specifically, in Alappat, the Federal Circuit Court considered an Examiner's final rejection of an independent claim (and its depending claims) which recited a mathematical algorithm. (Id. at 1539) In reversing the Board's Panel's finding that the claim was directed to non-statutory subject matter, the Court stated "[t]he fact that the four claimed means elements function to transform

one set of data to another through what may be viewed as a series of mathematical calculations ***does not alone justify a holding that the claim as a whole is directed to nonstatutory subject matter.***" (Id. at 1545) (emphasis added). The Court also clearly indicated that a claim is not unpatentable merely because it 'reads on a general purpose digital computer 'means' to perform the various steps under program control.'" (Id.) Instead, the court characterized the claim, as a whole, as being directed to a "combination of interrelated elements" and "a specific machine to produce a useful, concrete and tangible result." (Id.) Indeed, the Court specifically held that the claim for a general purpose computer programmed with a new mathematical algorithm stated patentable subject matter. (Id. at 1545). According to the Court, new programming effectively creates a new machine "because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform special functions pursuant to instructions from program software." (Id.) Accordingly, in light of the Federal Circuit's decision, the Office's reasoning is simply without basis.

Third, with respect to the Office's advise that Applicant "provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result", Applicant reminds the Office that it has the burden of setting forth a *prima facie* case of unpatentability. (see e.g. MPEP 2106 IV(C)). In view of the above discussion, the Office has not met this burden because it has failed to show that claim 1 presents non-statutory subject matter under § 101. Accordingly, for at least this reason, Applicant does not bear the burden of providing such a written description. Instead, Applicant directs the Office's attention to the language of claim 1 and the

language of the specification, which sufficiently show that claim 1 is directed to a useful, concrete and tangible result.

Claims 8 and 10-14 stand rejected under 35 U.S.C. §101 because they allegedly do not meet §101 requirements (the claims have improper language regarding the storage medium).

Applicant respectfully disagrees with the Office's rejection. Nevertheless, in the interest of advancing the prosecution of this matter, Applicant has amended these claims. Accordingly, Applicant respectfully requests that these rejections be withdrawn.

Claims 9 and 15-20 stand rejected under 35 U.S.C. §101 because they define a computing system embodying functional descriptive material but do not define a computer-readable medium or memory.

Applicant respectfully disagrees with the Office's rejection. Nevertheless, in the interest of advancing the prosecution of this matter, Applicant has amended claims 9 and 15. Applicant further asserts that the rejections against claims 16-20, which depend directly or indirectly from claim 15, have been addressed by virtue of the amendment to claim 15. Accordingly, Applicant respectfully requests that these rejections be withdrawn.

§ 103 Rejections

Claims 1-20 stand rejected under U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,639,943 to Radha et al. (hereinafter "Radha") in view of U.S. Patent No. 6,731,811 to Rose (hereinafter "Rose") and further in view of U.S. Patent No. 5,754,233 to Takashima (hereinafter "Takashima").

The Claims

Claim 1 recites a method of processing media content, the method comprising:

- generating a motion compensated prediction of a region of media content;
- receiving an indication of whether there are first and second quantities of residual samples remaining for refining the prediction, on a per-region basis, wherein the indication comprises one or more values associated with one or more picture-level parameters; and
- adding of the first quantity of residual samples to the prediction to generate a refined prediction value, when so indicated; and
- subtracting the second quantity of residual samples from the refined prediction value to generate a final representation, when so indicated.

In making out the rejection of this claim, the Office argues that Radha discloses all of the subject matter of this claim except for "subtracting the second quantity of residual samples" and "wherein the indication comprises one or more values associated with one or more picture-level parameters". For these features, the Office relies on Rose and Takashima respectively. The Office argues that the motivation to combine the teachings of these references would be to "obtain an apparatus that operates more efficiently by being able to take advantage of addition information given to a system."

Applicant respectfully traverses this rejection and submits that the Office has not established a *prima facie* case of obviousness. First, as Applicant explained in its previous response (filed October 19, 2006), Radha does not disclose "receiving an *indication* … *on a per-region basis*". (emphasis added). Specifically, the Office relies on the movement of an apparatus (which is not identified or specified by the Office) between layers as being equivalent to an

"indication", as claimed. However, the act itself of moving "from one layer to the next" in Radha cannot be equated with "receiving an indication", as claimed – especially when considering the language recites "adding...and subtracting...*when so indicated*" and "wherein the indication comprises one or more values...", as claimed. (emphasis added). In addition, Nothing in Radha indicates "*on a per-region basis*", as claimed. (emphasis added). Furthermore, contrary to the Office's argument, there is no distinction between a first and second quantity of residual samples in Radha. (see Radha, Figs 5A and 8A).

In responding to these arguments, the Office argues "...the examiner relied upon Radha to generally show the indication. However, the examiner relied upon Takashima to disclose the specifics of the indication as claimed." (see Office Action, Page 2). This response, however, neglects the fact that the Office equates the enhancement and base layers in Radha as "...first and second quantities of residual samples..." as claimed. (See Office Action, Page 6, which states: "...wherein the residual samples are contained with the enhancement and base layers", Office Action, Page 6). It also neglects the fact that the Office relies on the process of moving between these layers to show "an indication" as claimed ("to generally show per the Office"). (See Office Action, Page 6, which states: "...the indication is the process from moving from one layer to the next."). Accordingly, regardless of the specifics of the indication in Takashima, the act itself of moving "from one layer to the next" in Radha cannot be equated with "receiving an indication", as claimed and Radha simply makes no distinction between a first and second quantity of residual samples.

In addition, since Radha does not distinguish between a first and second quantity of residual samples, it cannot possibly disclose "adding of the first

quantity of residual samples", as claimed. Accordingly, it is not surprising that the Office is unable to identify "a refined prediction value", as claimed in Radha.

Second, as Applicant explained in its previous response, the Office's reliance on Takashima as disclosing "one or more values associated with one or more picture-level parameters" is misplaced because, even if the act of moving "from one layer to the next" in Radha could be equated with "an indication", which it cannot, the act itself of moving cannot comprise values - at least in the context of Radha and this claim. This is because the *act of moving* and the characteristic of *comprising one or more values* are incongruous.

Third, Fig. 5 of Rose does not disclose "subtracting the second quantity of residual samples from the refined prediction value *to generate a final representation*", as claimed. (emphasis added). Instead, Fig. 5 shows subtracting predicted frames in the base layer and first and second enhancement layers to obtain respective prediction errors (see Rose, Column 6, lines 10-20).

In responding to these arguments, the Office argues that Column 6 (lines 11-35) discloses "performing a subtraction to produce a residual value. The residual value is then fed to the reconstruction module and used to produce a final output." Applicant disagrees with the Office's characterization of this excerpt. Specifically, Applicant is unable to find any mention of a "refined prediction value", as claimed. As such, this excerpt cannot possibly disclose "subtracting ...from the refined prediction value" as claimed. Furthermore, as noted above, this excerpt simply doesn't disclose "...to generate a final representation." Instead, it describes obtaining a prediction error(s) (or residual(s)) in the context of obtaining a predictive encoder.

Fourth, as Applicant has explained in its previous responses, the Office's stated motivation (to improve efficiency) is too general because it could cover almost any alteration contemplated of Radha and does not address *why* this specific proposed modification would have been obvious. Furthermore, with respect to the modification proposed by the Office, even if the act of moving in Radha could be modified to "comprise one or more values…" as claimed, which it cannot, such an effect would simply have no effect on Radha in regard to operating "more efficiently". For instance, such a modification would not enable Radha "to take advantage of additional information given to a system without causing undesired conflicts/complexity", as the Office suggests. In fact, as far as Applicant can tell, such a modification would have no effect on Radha's operation at all. Accordingly, in addition to being to general, the Office's stated motivation is simply not relevant to the proposed combination of Radha and Takashima.

In view of the above discussion, the Office has not established a *prima facie* case of obviousness. Hence, for at least this reason, this claim is allowable.

Claims 2-9 depend from claim 1 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 1, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Additionally, regarding claims 4 and 7, Applicant respectfully submits that the Office's reliance on what the region of content in Radha "could comprise" is misplaced because to establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *(In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

Furthermore, the Office has not provided any motivation as to *why* an artisan would have utilized a macroblock with respect to the region of content.

In responding to these arguments, the Office argues "[t]he common knowledge or well-known in the art statement with regards to claims 4, 7, 12 and 18 is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of Official Notice." Applicant disagrees and respectfully submits that regardless of whether or not macroblocks are well known, the Office's reliance on what the region of content in Radha "could comprise" is not relevant. Instead, the cited reference (or references when combined) must teach or suggest *all the claim limitations*. (emphasis added).

In addition, and as an aside, the Office's assertion that macroblocks are well known in the MPEG environment is not appropriate because this fact is not "capable of instant and unquestionable demonstration as being well-known." (see MPEP 2144.03). Applicant respectfully reminds the Office that "assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must *always* be supported by citation to some reference work recognized as standard in the pertinent art." (In re Ahlert, 424 F.2d at 1091, 165 USPQ at 420-21, see also MPEP 2144.03) (emphasis added). Accordingly, Applicant respectfully requests that /documentary evidence, pursuant to MPEP 2144.03 and 37 CFR 1.104(c)(2), be supplied to support the Office's official assertion.

Claim 10, as amended (added language in bold italics), recites *one or more computer-readable storage media having computer-readable instructions stored thereon which, when executed by a computer*, implement a decoder of media content to generate a motion compensated prediction of at least a region of media content, to receive an indication of one or more sets of samples of residual

information to further refine the prediction, wherein the indication comprises one or more values associated with one or more picture-level parameters, and to add a first set of such samples to the prediction to generate a modified prediction, if indicated, and to subtract a second set of such samples from the modified prediction to generate a final motion compensated prediction of the region, if indicated.

In making out the rejection of this claim, the Office relies on the same argument that it made with respect to claim 1. Therefore, for the reasons set forth above, applicant respectfully traverses this rejection.

Accordingly, in view of the above discussion, the Office has not established a *prima facie* case of obviousness. Hence, for at least this reason, this claim is allowable.

Claims 11-14 depend from claim 10 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 10, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Additionally, regarding claim 12, Applicant respectfully submits that the Office's reliance on what the region of content in Radha "could comprise" is misplaced. Furthermore, the Office has not provided any motivation as to *why* an artisan would have utilized a macroblock with respect to the region of content.

As noted above, in responding to these arguments, the Office argues "[t]he common knowledge or well-known in the art statement with regards to claims 4, 7, 12 and 18 is taken to be admitted prior art because applicant failed to traverse

the examiner's assertion of Official Notice." Applicant disagrees and respectfully submits that regardless of whether or not macroblocks are well known, the Office's reliance on what the region of content in Radha "could comprise" is not relevant. Furthermore, Applicant respectfully requests that /documentary evidence, pursuant to MPEP 2144.03 and 37 CFR 1.104(c)(2), be supplied to support the Office's official assertion.

Claim 15, as amended (added language in bold italics), recites a system *implemented at least in part on a computing device,* comprising:

- a decoder application to receive a region of media content and control generation of decoded media content; and
- an application program interface (API), communicatively coupling the decoder application with a hardware accelerator, wherein if the API receives an indication of one or more sets of residual samples, the first set of samples is added to a motion compensated prediction to generate a refinement of a prediction value, when so indicated, and a second set of samples is subtracted from the refined prediction value to generate a final representation, when so indicated.

In making out the rejection of this claim, the Office relies on the same argument that it made with respect to claims 1 and 15. In addition, the Office argues that Fig. 10 (blocks 52 and 54) of Radha discloses a hardware accelerator and Column 9 (lines 57-59) discloses an application program interface (API), as claimed.

Applicant traverses this rejection and respectfully submits that for all of the reasons set forth above, the Office has failed to establish a *prima facie* case of obviousness. In addition, Column 9 (lines 57-59) of Radha simply does not

disclose an "application program interface (API), communicatively coupling the decoder application with a hardware accelerator", as claimed. This is not surprising because blocks 52 and 54, depicted in Fig. 10, do not disclose or suggest a "hardware accelerator", as claimed. Furthermore, even if these blocks did disclose a "hardware accelerator", which they do not, they are actually part of the decoder itself. (see Fig. 10 and column 9, lines 64-67 through column 10, lines 1-7).

In responding to these arguments, the Office refers to Fig. 10 in Radha and argues "...Radha illustrates the accelerator or motion compensation and inverse DCT blocks." Applicant respectfully disagrees and submits that item 46 in Fig. 10 of Radha illustrates a decoder with a base layer decoder 46. Furthermore, Applicant submits that the Office has not addressed Applicant's full argument.

Accordingly, in view of the above discussion, the Office has not established a *prima facie* case of obviousness. Hence, for at least this reason, this claim is allowable.

Claims 16-20 depend from claim 15 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 15, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Additionally, regarding claim 18, Applicant respectfully submits that the Office's reliance on what the region of content in Radha "could comprise" is misplaced. Furthermore, the Office has not provided any motivation as to *why* an artisan would have utilized a macroblock with respect to the region of content.

As noted above, in responding to these arguments, the Office argues "[t]he common knowledge or well-known in the art statement with regards to claims 4, 7, 12 and 18 is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of Official Notice." Applicant disagrees and respectfully submits that regardless of whether or not macroblocks are well known, the Office's reliance on what the region of content in Radha "could comprise" is not relevant. Furthermore, Applicant respectfully requests that /documentary evidence, pursuant to MPEP 2144.03 and 37 CFR 1.104(c)(2), be supplied to support the Office's official assertion.

Conclusion

All of the claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

Dated: 4/6/2007   By: _____
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